EXHIBIT 1
DATE 1/15/07
HB 8,6,11

Jordan:
Patrick Murtagh, PE
Montana Engineering and Administration

I want to re-iterate a few things that Rocky (the operator) noted and respond to any technical questions that you may have regarding this project.

1) The state is quite concerned about raw sewage going to the river during any power outage. Rocky discussed the safety concerns of flooding in the lift station. The state noted that metering was very important and the Town complied earlier by installing a meter, which was very helpful in maintaining accuracy in the design parameters for a new lagoon system and for permits.
2) The state has been working with the Town for a while, and deadlines have been established. The Town has met all deadlines including the PER by December of 2006 (it has been approved). An interim discharge permit is in place and sampling is being conducted religiously.
3) Due to the timeline established by the State, the Town cannot wait for the next biennium; in fact the design needs to be submitted by June 30, 2007. Hopefully the TSEP grants will be approved soon.

You may recall me from the Bainville testimony. In that project we were able to use spray irrigation as the final disposal. We very much would have preferred that option for Jordan but due to salinity of the water it was not possible.

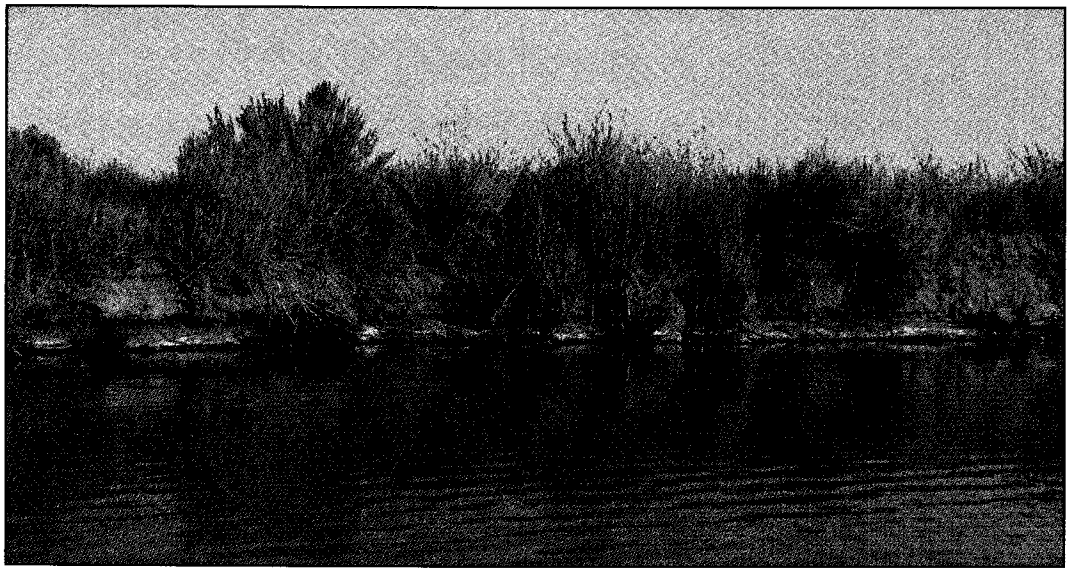
On the bright side, the gumbo-clay soils in the area are excellent for holding water. We took samples of the area clay and found that it was as impermeable as synthetic liners, which have the potential to leak through cracks in joints, and leak at far less than the 6-inches per year allowed by the state. The soils provide us a lower cost liner, and cannot be damaged by time.

We did a study of the inflow and infiltration water entering the system and found that it was lower than seen for many similar Towns. The figure enclosed shows on very minor correlation between wastewater flows and precipitation events. As can be seen from the enclosed cost estimate, very little pipe replacement is being called for in this project and nearly all funds are being used for the construction of new wastewater lagoons.

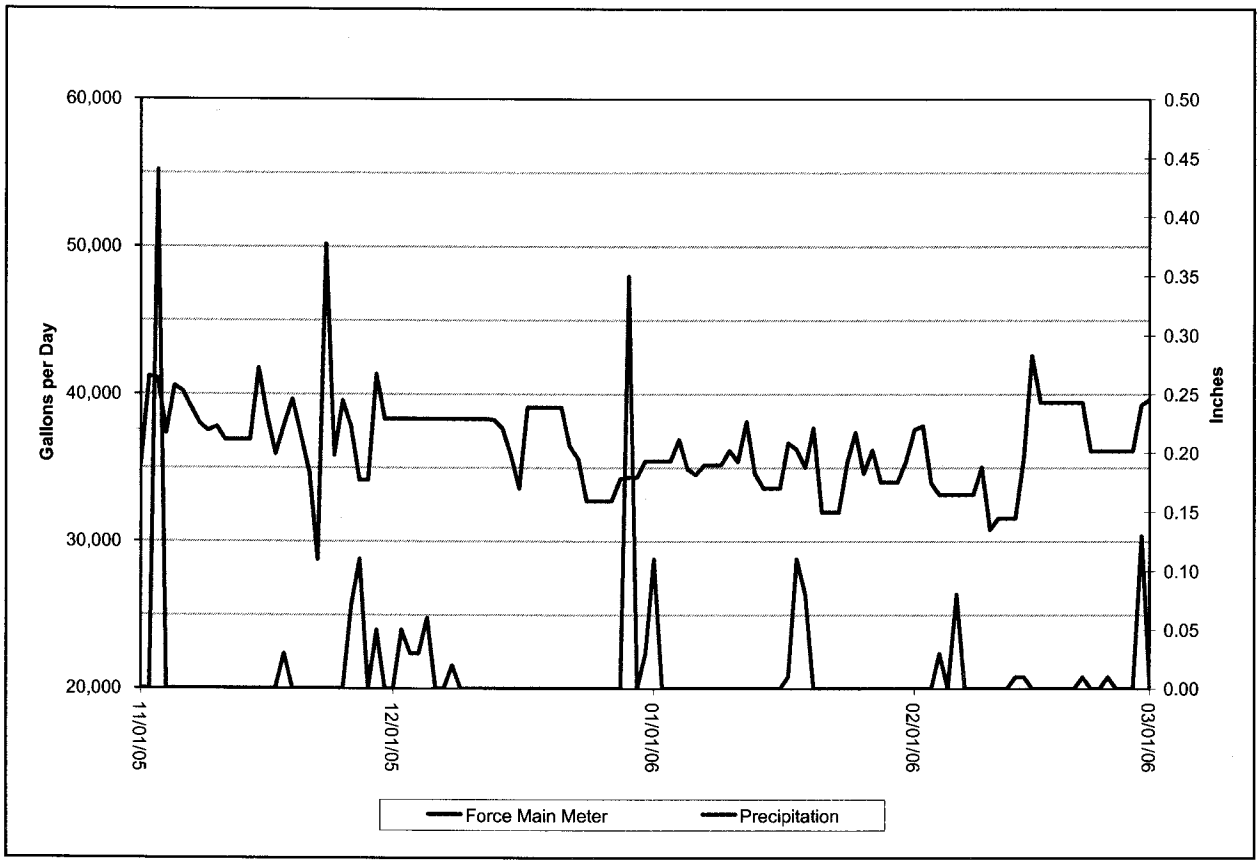
Lagoon Bank Erosion at Jordan

Force Main Flows vs. Precipitation—Only Minor Influence

Lagoon Bank Erosion at Jordan



Force Main Flows vs. Precipitation—Only Minor Influence



Jordan: Life Cycle Costs for the Preferred Alternative

Item	Unit	Quantity	Unit Cost[1]	Total
Sludge Removal	CY	12,000	$8	$96,000
Cut/Fill for Lagoon and Embankment	CY	16,750	$4	$67,000
Compacted Clay Liner	YD^2	45,050	$5	$225,250
Rip Rap	CY	1,250	$75	$93,750
Rehab Inflow Control Structure	LSM	1	$15,000	$15,000
Control Structures and Piping	LSM	1	$50,000	$50,000
Discharge Measurement Structure	LSM	1	$10,000	$10,000
Solar Powered Mixer	EA	3	$17,500	$52,500
Fencing Around Lagoons	LF	2,850	$5	$14,250
pH Adjustment Equipment	LSM	1	$3,000	$3,000
Retrofit Existing Wet Well	LSM	1	$10,000	$10,000
Submersible Pump System	EA	2	$20,000	$40,000
Valve Vault	LSM	1	$7,500	$7,500
6" Piping	LF	50	$35	$1,750
Control Building	LSM	1	$20,000	$20,000
Electrical and Controls	LSM	1	$15,000	$15,000
Standby Generator	EA	1	$22,500	$22,500
Site Restoration and Grading	LSM	1	$2,500	$2,500
8" PVC Sewer Main	LF	1,525	$45	$68,625
Replace Manholes	EA	8	$3,500	$28,000
Reconnect Sewer Services	EA	20	$500	$10,000
Gravel Restoration	LF	1,550	$20	$31,000
Subtotal: Direct Construction Cost				$883,625
Mobilization, Bonding, Etc.		10.0%		$88,363
Traffic Control				$6,881
Subtotal: Construction Cost				$978,869
Contingency		10.0%		$97,887
Total Construction Cost				**$1,076,755**
Engineering and Construction Administration		18.0%		$193,816
Grant Administration and Permits		2.5%		$26,919
Capital Costs (2006)				$1,297,490
Capital Costs (2008)				**$1,376,507**
Estimated Change to Annual O&M Costs				$13,300
O&M Difference Over 20 yr Planning Period (6% Discount Rate)				$152,550
20 Year Life Cycle Costs				**$1,529,057**

[1] *Estimated unit costs are based upon estimates from suppliers and bid tabs for similar projects throughout Eastern Montana.*

[2] *The ENR 2006 Forecast for the Construction Cost Index is +2.8%, so capital costs are projected to an anticipated construction date in 2008 using a conservative 3.0% inflation rate.*